

The following is a list of the currently accepted *Chamaesyce* taxa in California:

- |  |  |
|--|--|
| <i>C. abramsiana</i> (Wheeler) Koutnik                                     | <i>C. parishii</i> (Greene) Millsp.  |
| <i>C. albomarginata</i> (Torrey & A. Gray) Small                           | <i>C. parryi</i> (Engelm.) Rydb.   |
| <i>C. arizonica</i> (Engelm.) Arthur                                       | <i>C. pediculifera</i> (Engelm.) Rose & Standley                             |
| <i>C. fendleri</i> (Torrey & A. Gray) Small                                | <i>C. platysperma</i> (Engelm. ex S. Watson) Shinnery                        |
| <i>C. glyptosperma</i> (Engelm.) Small                                     | <i>C. polycarpa</i> (Benth.) Millsp. var. <i>polycarpa</i>                   |
| <i>C. hooveri</i> (Wheeler) Koutnik  | <i>C. polycarpa</i> var. <i>hirtella</i> (Boiss.) Millsp.                    |
| <i>C. maculata</i> (L.) Small  | <i>C. prostrata</i> (Aiton) Small  |
| <i>C. melanadenia</i> (Torrey) Millsp.                                     | <i>C. revoluta</i> (Engelm.) Small   |
| <i>C. micromera</i> (Boiss.) Wootton & Standley                            | <i>C. serpyllifolia</i> (Pers.) Small subsp. <i>serpyllifolia</i>            |
| <i>C. nutans</i> (Lag.) Small  | <i>C. serpyllifolia</i> subsp. <i>hirtula</i> (Engelm. ex S. Watson) Koutnik |
| <i>C. ocellata</i> (E. M. Durand & Hilgard) Millsp. subsp. <i>ocellata</i> | <i>C. setiloba</i> (Engelm. ex Torrey) Millsp.                               |
| <i>C. ocellata</i> subsp. <i>arenicola</i> (Parish) Thorne                 | <i>C. vallis-mortae</i> Millsp.  |
| <i>C. ocellata</i> subsp. <i>rattanii</i> (S. Watson) Koutnik              |  |

I thank the two anonymous reviewers and the editor for their helpful suggestions.—DARYL L. KOUTNIK, Research Assistant, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166. (Received 22 Oct 1984; accepted 19 Apr 1985.)

---

REDISCOVERY AND REPRODUCTIVE BIOLOGY OF *Pleuropogon oregonus* (POACEAE).—*Pleuropogon oregonus* Chase (Oregon semaphore grass) was first collected in 1886 by W. C. Cusick in Hog Valley, probably near Union, in northern Oregon. In 1901, another collection of *P. oregonus* was made by A. B. Leckenby in Union, Oregon; and in 1936 M. E. Peck found it again, but in swampy ground 25.8 km west of Adel, Lake County, Oregon. Because *P. oregonus* has not been collected for nearly half a century and is reported as extinct or endangered (Smithsonian Rept. to Congress, Serial No. 94-A, 1975; Aysenu and DeFilipps, Endang. Threat. Pl. U.S., Smithsonian Inst. and World Wildlife Fund, Wash., D.C., 1978; Siddall, Chambers and Wagner, Rare, Threat. Endang. Vasc. Pl. Oregon, Oregon Nat. Area Preserves Advisory Committee, 1979; U.S. Fish Wildlife Serv., Fed. Reg. 45(242):82480–82569, 1980), its recollection is worthy of note.

Oregon, Lake Co., ca. 25 km w. of Adel on Hwy. 140, T39S, R22E, Sec. 5 nw.¼ and T38S, R22E, Sec. 32 sw.¼. *J. Kagan 60482* (ORE), 4 Jun 1979. Very probably the same locality where Peck made the last previous collection, 47 years ago.

*Habitat.* Restricted to sluggish water in depressions and sloughs fed by Mud Cr. on both sides of Hwy. 140, on gravelly silt loam or clay. It grows in association with various grasses and sedges, including *Beckmannia syzigachne*, *Deschampsia danthonioides*, *Glyceria borealis*, *Hordeum brachyantherum*, *Poa nevadensis*, *Carex anthrostachya*, *C. nebraskensis*, and *Eleocharis palustris*. The meadow area, including the portion occupied by *P. oregonus*, has been used for years for fall grazing.

*Reproductive biology.* Oregon semaphore grass blooms from early June to late July and fruits from late July to mid-August. Its inflorescence is a simple, erect raceme,

13–20 cm long, bearing 6–7 spikelets. Pedicels are 2–5(–12) mm long. Spikelets spread toward one side of the raceme, 2–4(–5) cm long, each bearing 7–14 florets. Bentham and Hooker f. (1883, *Genera Plantarum*) described the florets of the genus *Pleuropogon* as “hermaphroditis v. summo masculo.” However, the uppermost floret of *P. oregonus* is usually reduced. The upper florets are pistillate, whereas the lower ones are perfect. Anthesis within each gynomonoeious spikelet is protogynous, starting with the upper pistillate flowers and then progressing to the lowest protandrous, hermaphroditic flowers, then upward. Gynomonoeicy and overall protogyny in spikelets but protandry in hermaphroditic florets found in *P. oregonus* are also observed in *P. californicus* (But, Systematics of *Pleuropogon* R.Br. (Poaceae), Ph.D. diss., U.C. Berkeley, 1977). Connor (1979, Breeding systems in the grasses: a survey. *New Zealand J. Bot.* 17:547–574) noted that gynomonoeicism is uncommon among the Gramineae.

Tests of the pollen, using four enzyme systems (malate dehydrogenase, isocitrate dehydrogenase, succinate dehydrogenase, and monoamine oxidase) showed 87% viability (I. Baker, pers. comm. 1983).

Low fecundity may contribute to its rarity. Of 4645 florets inspected, only 494 bore caryopses. Germinability test of a random sample of 30 caryopses (8 months old) with 0.1% tetrazolium salt solution showed 85% viability.

Although *P. oregonus* should no longer be considered ‘extinct,’ we suggest that it should remain classified as endangered.

We thank Lincoln Constance and Lawrence Heckard for assistance and encouragement in this study, Irene Baker for the pollen viability tests, and Tammy But and Lawrence But for field assistance.—PAUL P. H. BUT, The Chinese Univ. of Hong Kong, Shatin, N.T. Hong Kong; JIMMY KAGAN, The Nature Conservancy, 1234 Northwest 25th Avenue, Portland, OR 97210; VIRGINIA L. CROSBY, U.S.D.I., Bureau of Land Management, Denver Service Center, Denver Federal Center, Bldg. 50, Denver, CO 80225; and J. STEPHEN SHELLY, Dept. Botany, Oregon State Univ., Corvallis 97331. (Received 25 Oct 1984; accepted 25 Mar 1985.)